

## POSTER ABSTRACTS

15th Annual HMO Research Network Conference  
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11:30 am–Noon & 1:30–2:00 pm  
Monday, April 27th • Lobby

PS1 – 11

### Differences in Prescription Adherence vs. Blood Pressure Control: Linking Electronic Health Record and Claims Data

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**Background:** Hypertension (HTN) control may be highly dependent on patient behaviors, including filling of antihypertensive medication prescriptions (AHM Rx). We examined electronic health records (EHR) for patients of Geisinger Clinic who had prescription benefits through Geisinger Health Plan.

**Methods:** Prescriptions in the EHR were defined as filled if a claim was paid within 90 days. We used logistic regression to test if a patient's filling rate (FR) was associated with gender, age, economic status (measured as median household income by ZIP code) and number of vascular comorbidities (angina, MI, PVD, stroke). We then tested whether a higher categorical FR (0, 1-33, 33-67, 67-99 or 100%) resulted in a greater percent of office visits with blood pressure (BP) controlled to JNC7 standards (%BPc).

**Results:** All results are reported as Adjusted Odds Ratios (AOR) [95% CI]. Among 20,161 patients who met JNC7 criteria for HTN and had >3 AHM Rx during plan enrollment from 2002 to 2006, 99% were Caucasian and 53% were female with a mean age of 58.5 years (SD 15.8). Of 191,120 AHM Rx (mean per patient 9.5, SD 6.5), 49%, 59% and 62% were filled within 30, 60 and 90 days. Based on a 90-day FR, 14.7% of patients filled no Rx and 36.2% filled all. Factors negatively associated with FR were female gender (AOR 0.89 [CI 0.87-0.90]), increasing age (nonlinear, 0.30 [0.29-0.30] for age 60-80 years vs. age 40-60 years), and number of vascular comorbidities (nonlinear, 0.79 [0.77-0.81] for 1 vs. 0 comorbidities, 0.66 [0.61-0.71] for 2 vs. 0 comorbidities). Higher economic status was positively associated with FR (1.05 [1.03-1.07] per \$10k estimated annual income). In 19,500 patients who had >3 office visits, the mean number of BP readings per patient was 19.6 (SD 10.6), and 60% of readings were under control. After adjusting for the factors above and baseline blood pressures, there was a positive nonlinear association between FR and %BPc (1.08 [1.06-1.13] for 33-67% vs. 0% FR, 1.09 [1.08-1.16] for 67-99% vs. 0% FR, and 1.34 [1.07-1.46] for 100% vs. 0% FR). Results were similar if we excluded patients with 0% FR who may have used alternate insurance for Rx.

**Conclusions:** These findings suggest that prescription filling differs by gender, age and comorbidity status and that higher Rx filling rates are associated with better BP control.